



Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 1

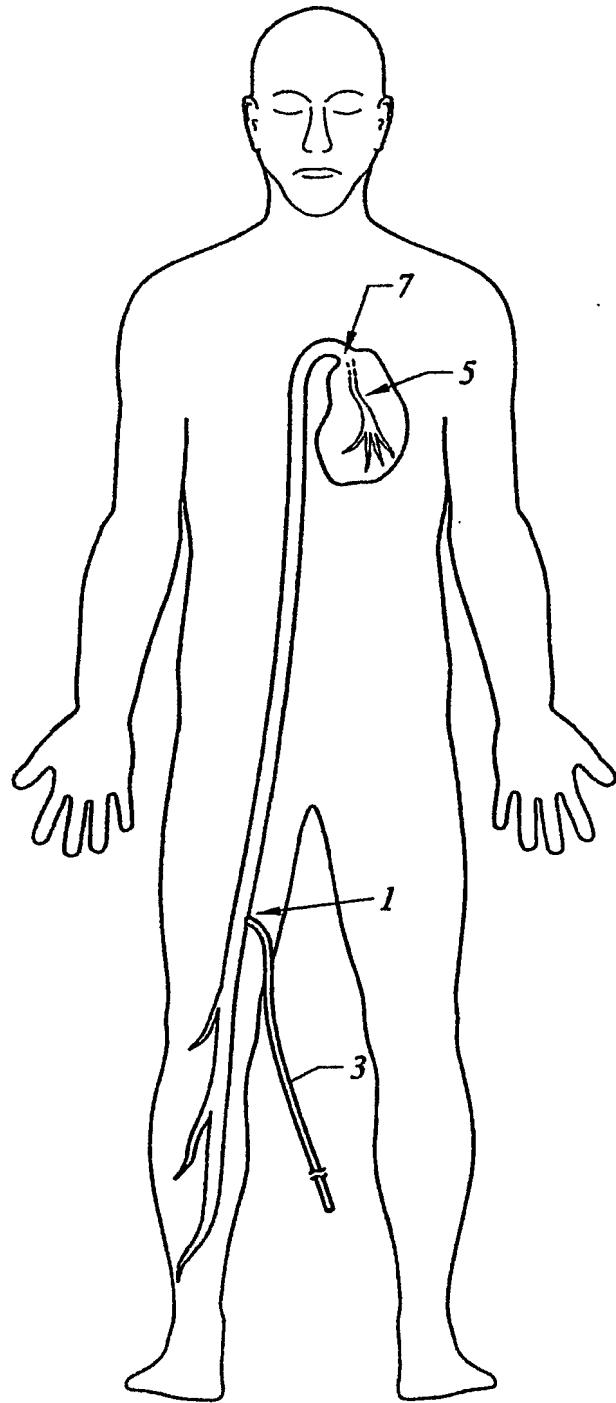


FIG. 1

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 2

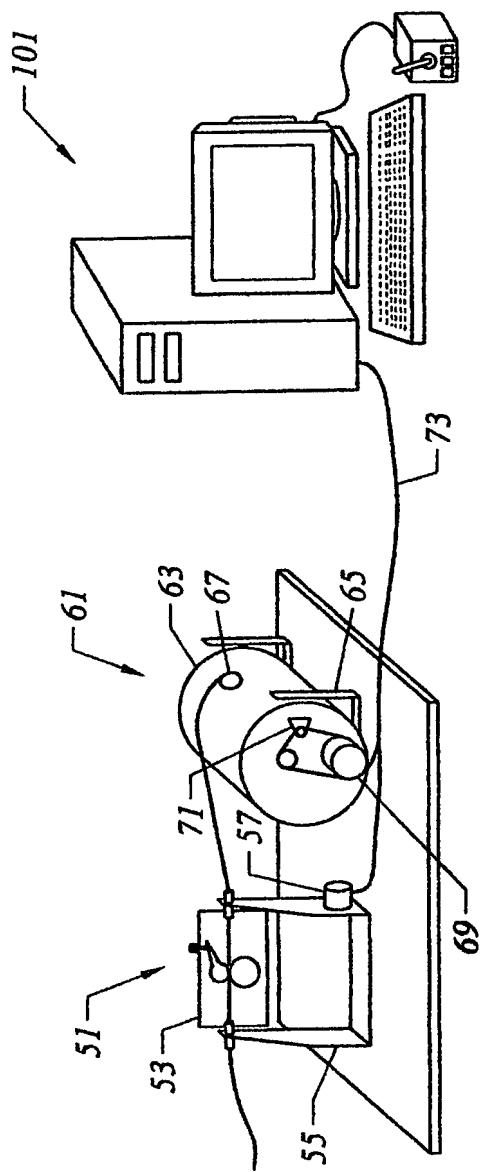


FIG. 2

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 3

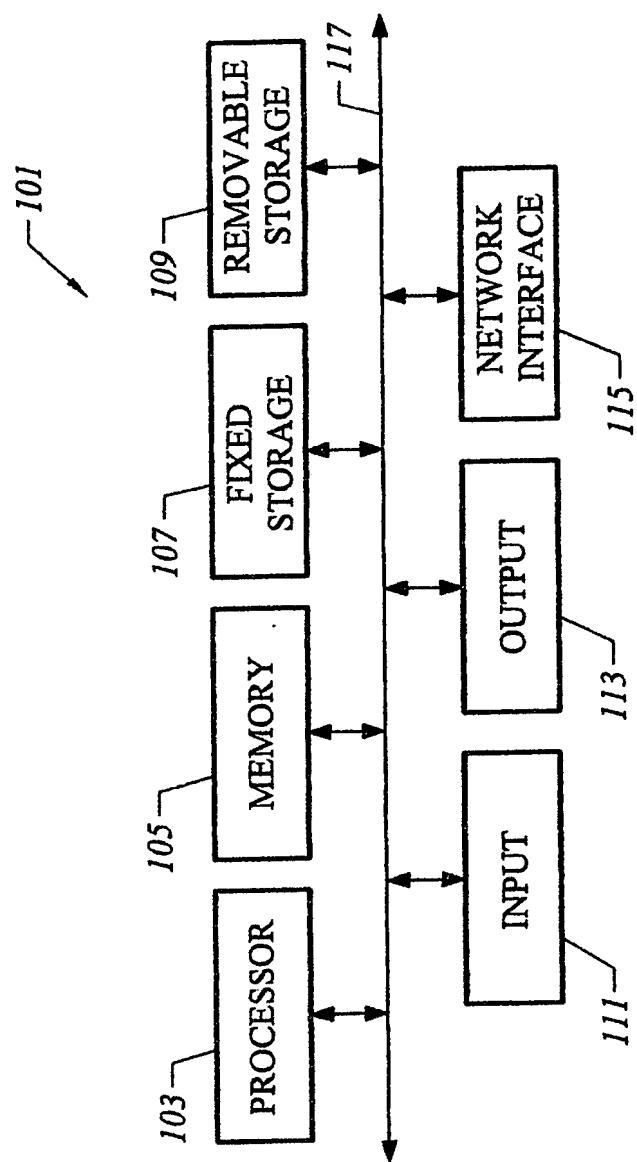


FIG. 3

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 4

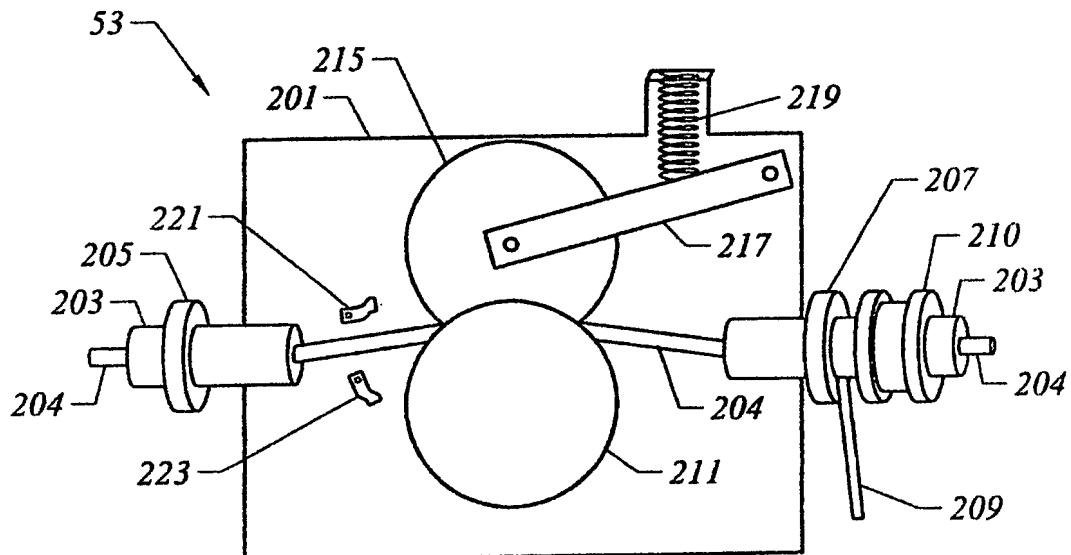


FIG. 4A

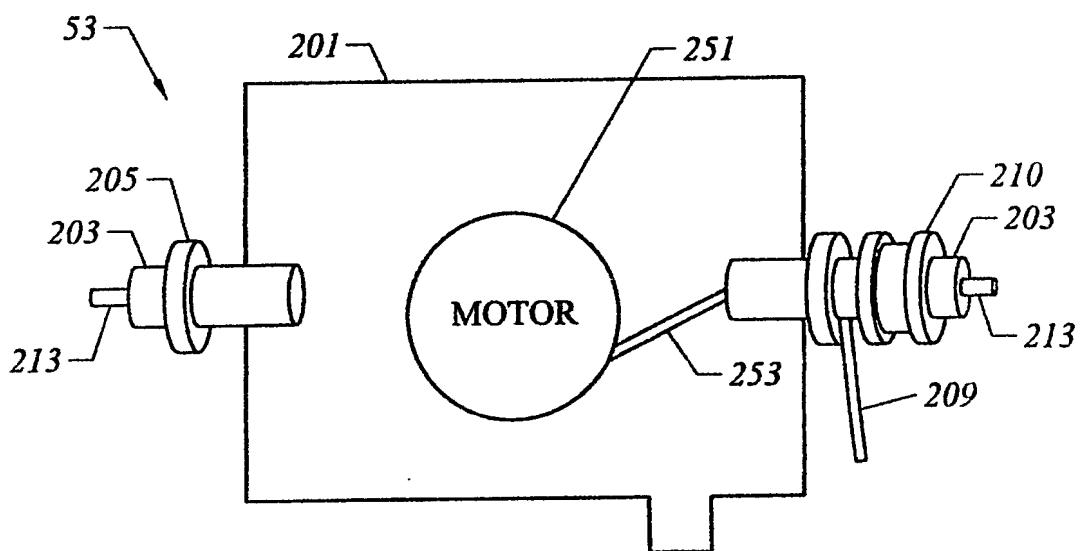


FIG. 4B

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 5

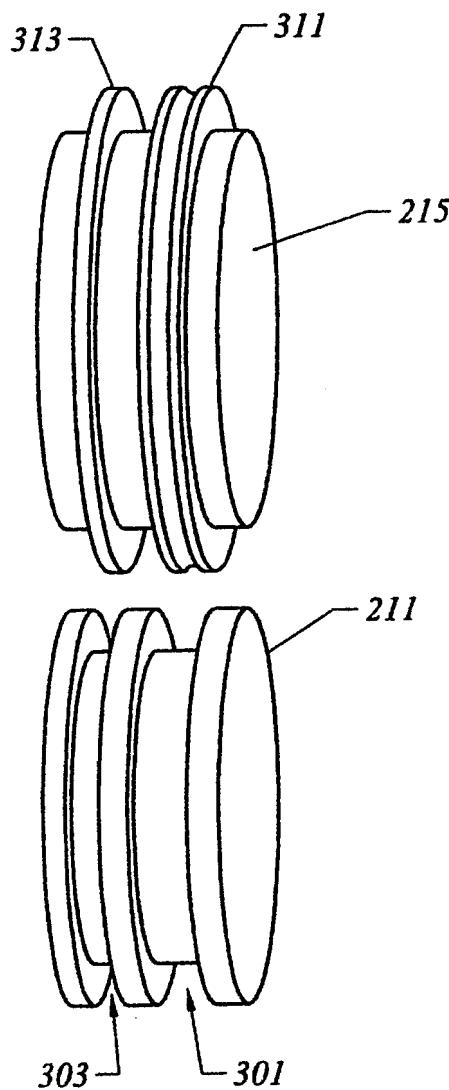


FIG. 5

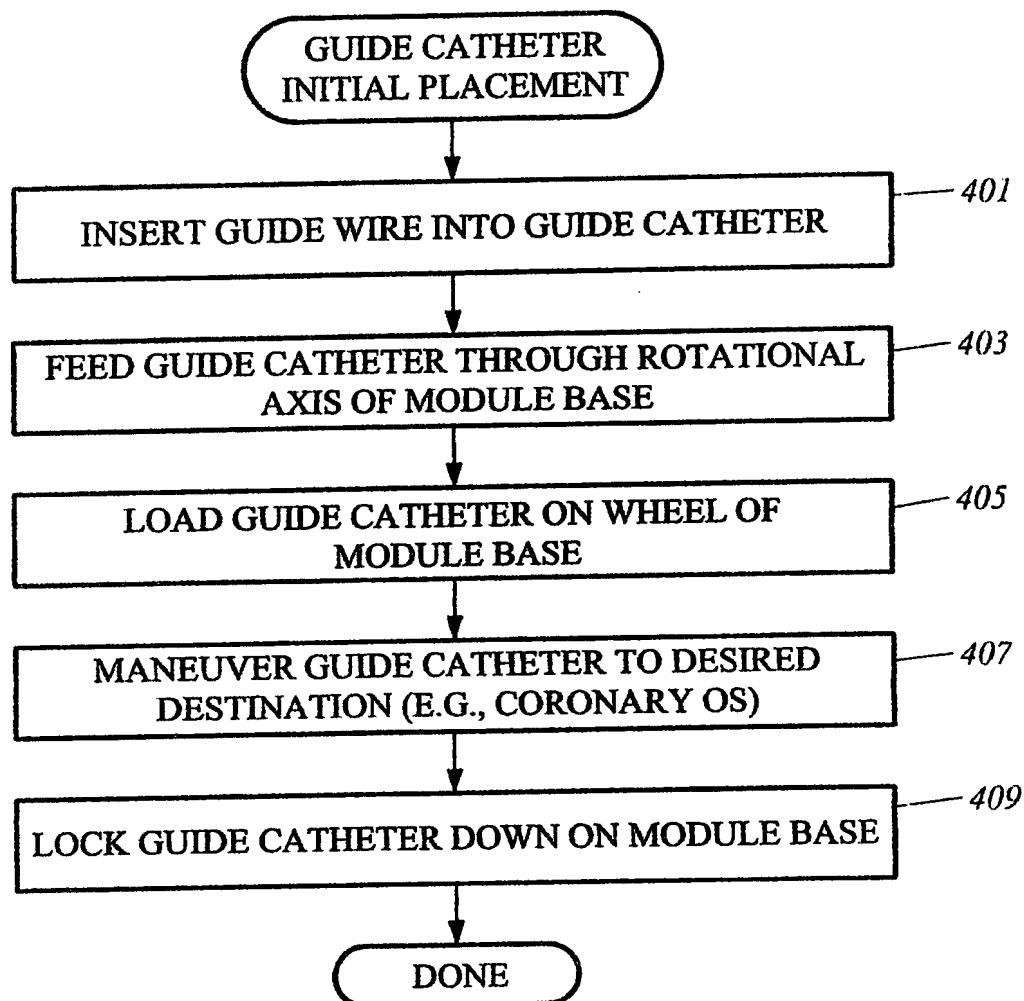


FIG. 6

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 7

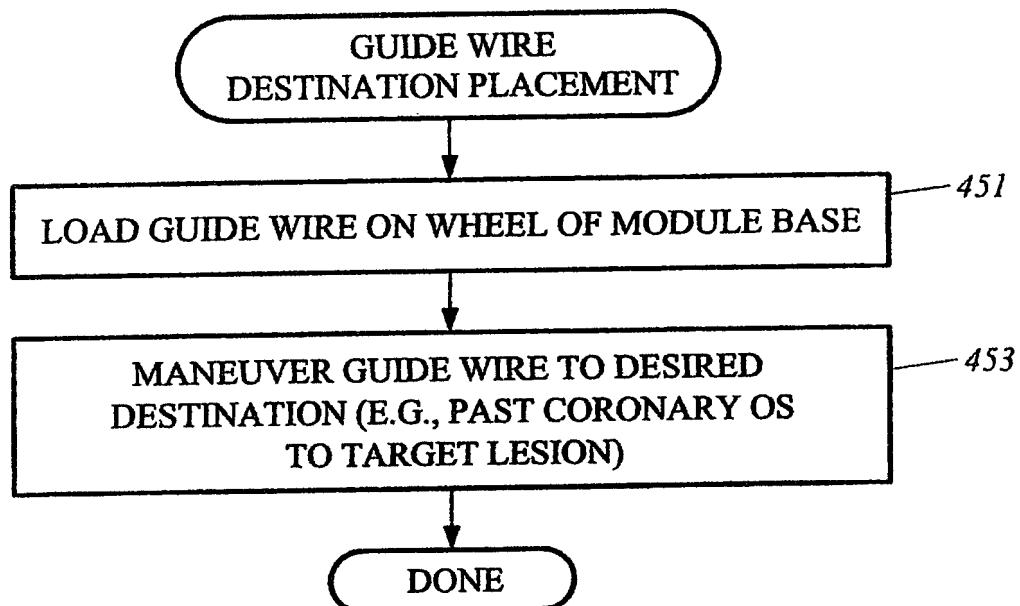


FIG. 7

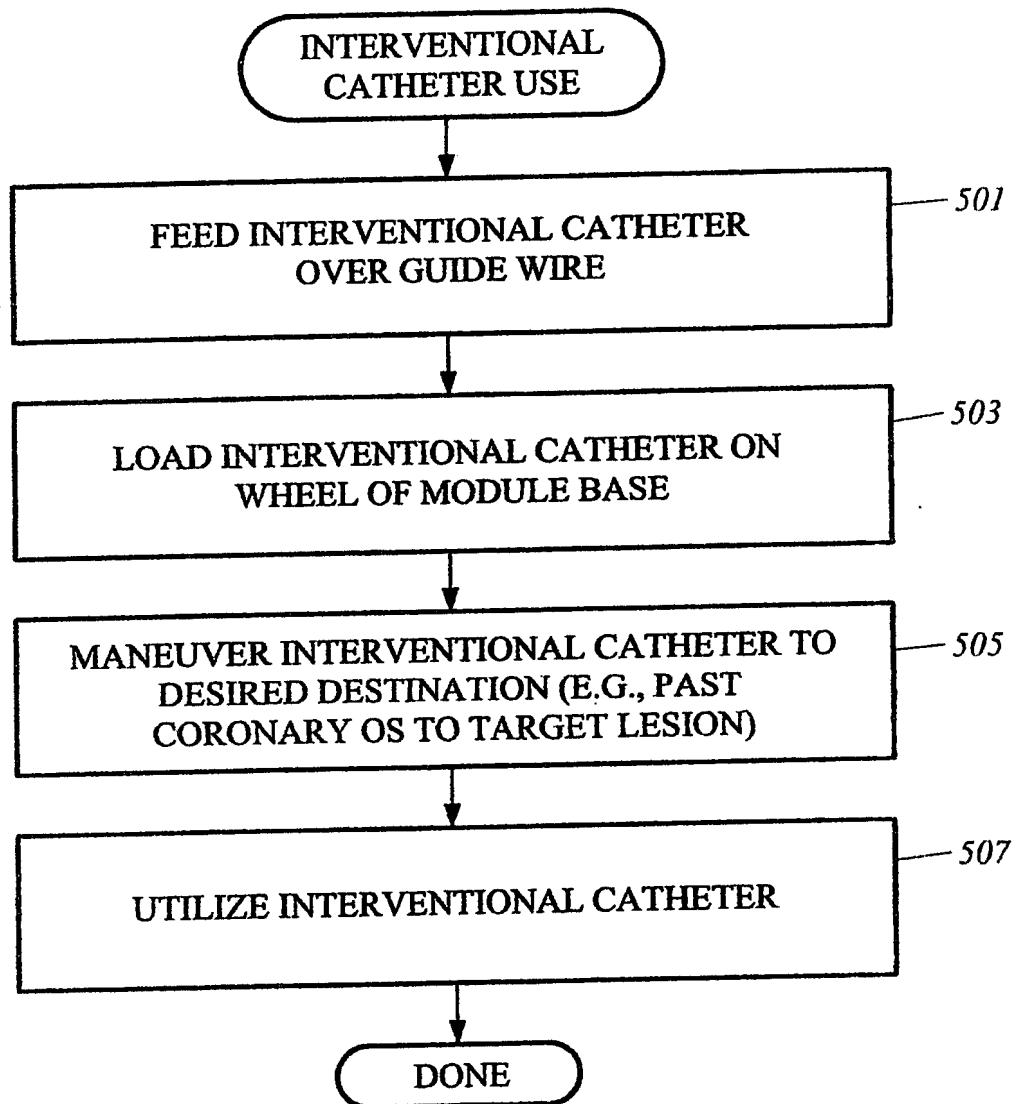


FIG.8

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 9

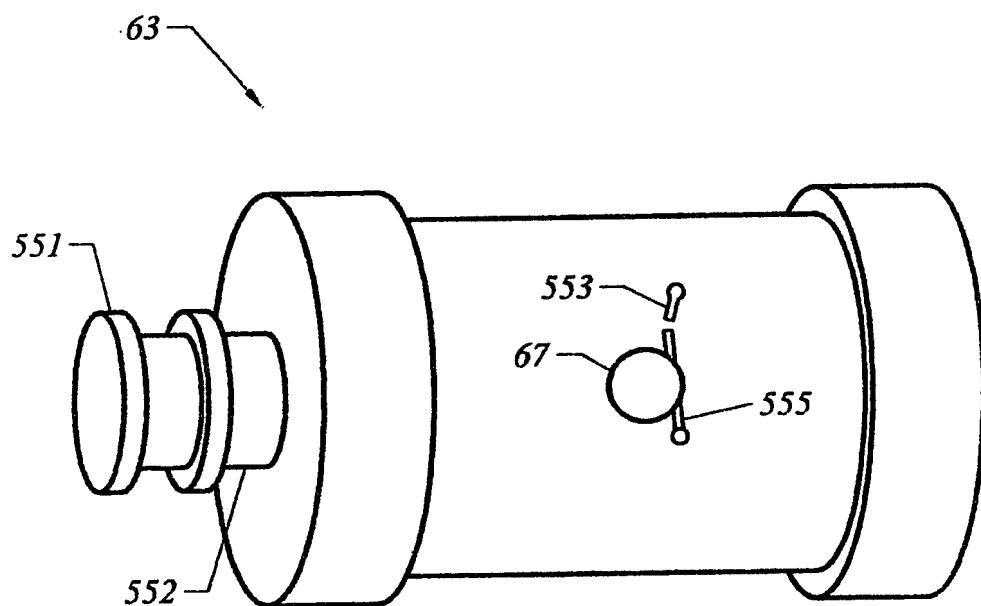


FIG. 9

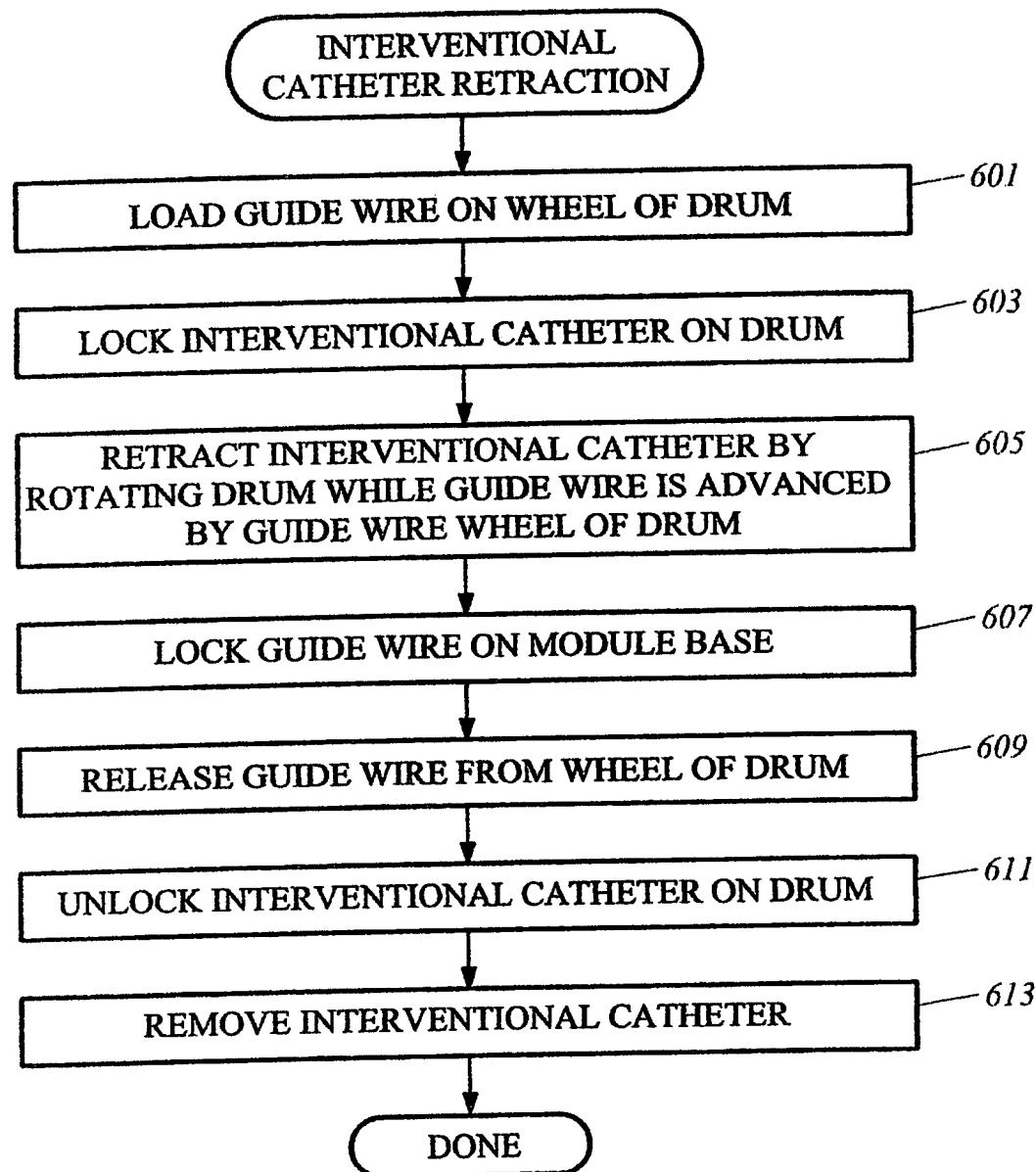


FIG. 10

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 11

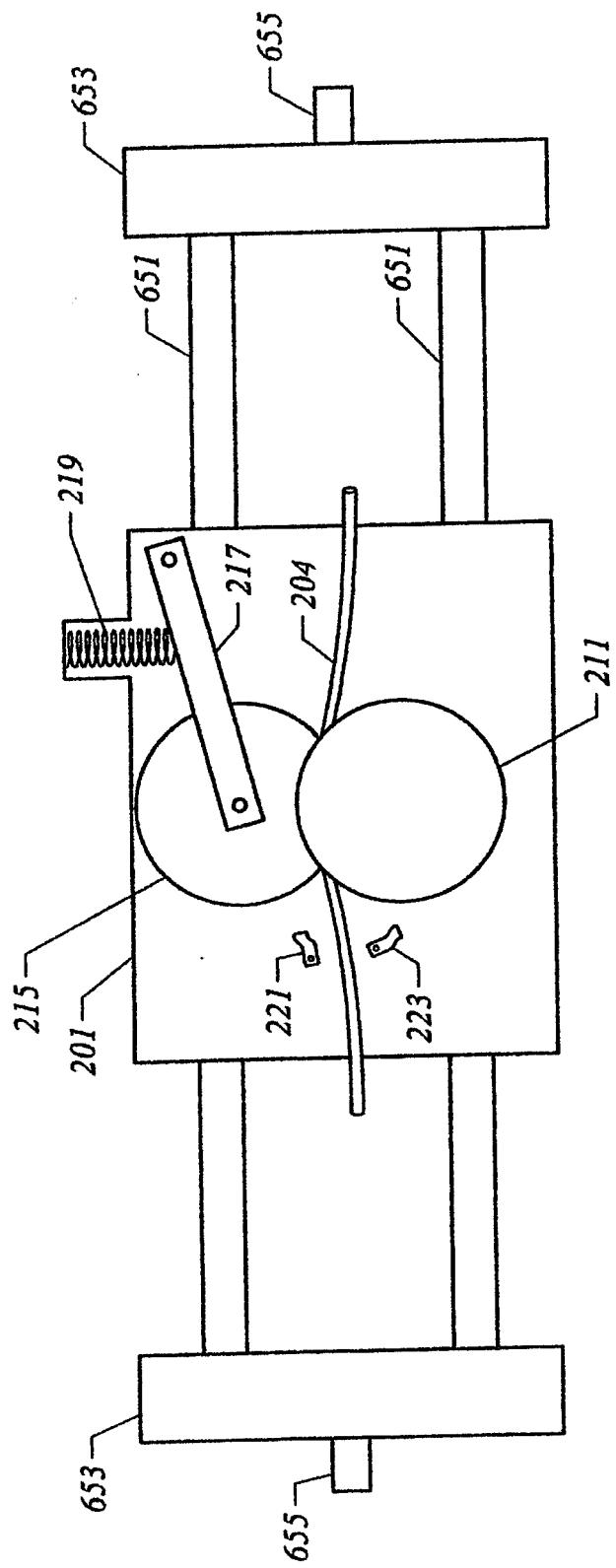


FIG. 11A

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 12

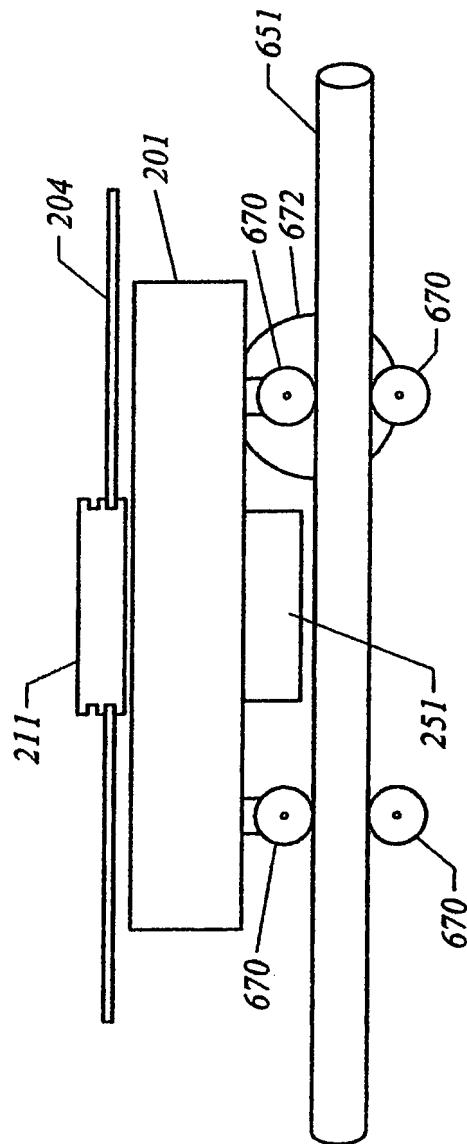


FIG. 11B

Computer-Assisted Manipulation of Catheters and Guide Wires
Schneider et al.
Application Serial No. 10/608,862
Replacement Sheet 13

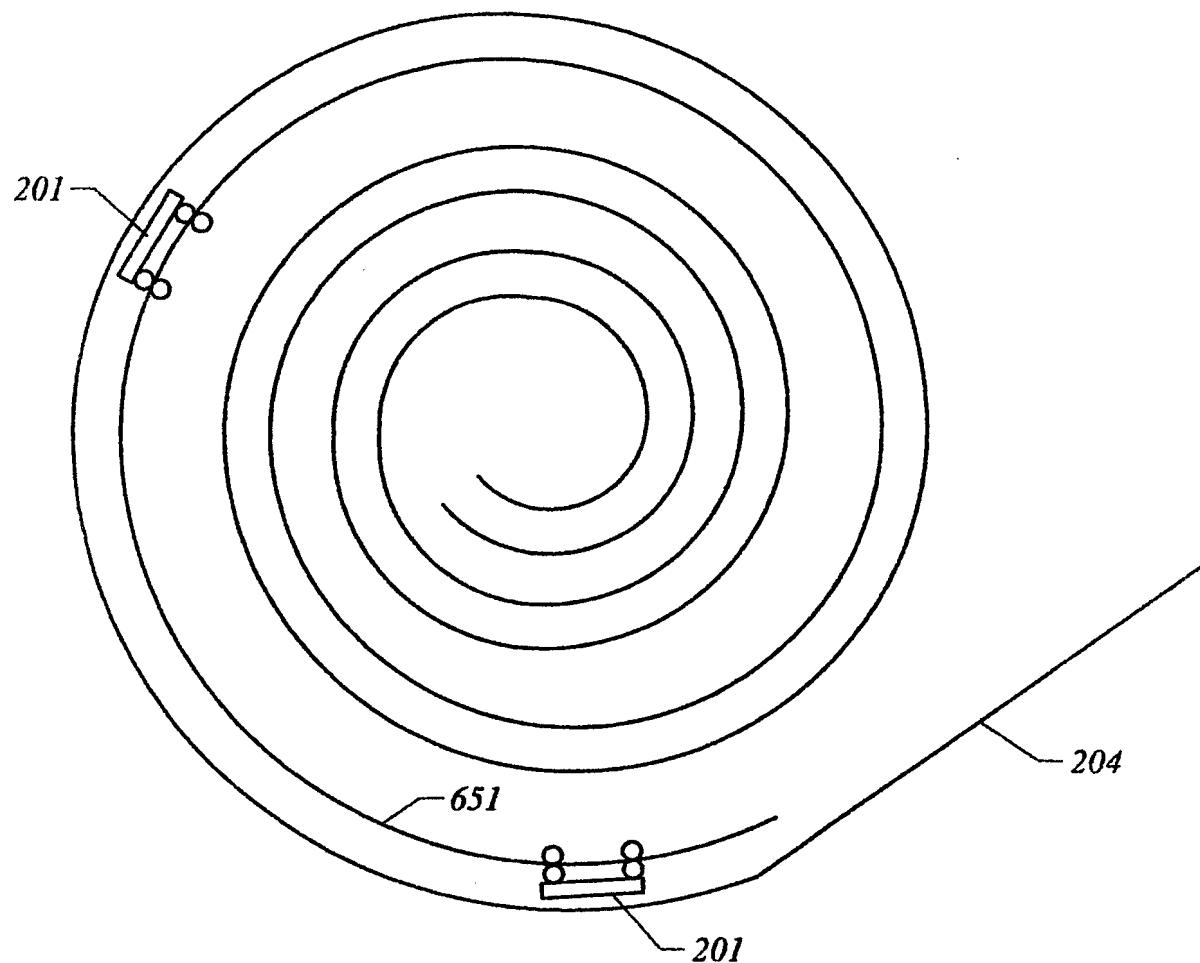


FIG. 12

Computer-Assisted Manipulation of Catheters and Guide Wires

Schneider et al.

Application Serial No. 10/608,862

Replacement Sheet 14

TeleCath - Copyright 2002-2003 Medical Mobile Robotics Laboratory					
Mod-Base Wheel		Rotate Mod-Base	Drum	Drum Wheel	
<input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> </td></td></td></td></td>	<input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> </td></td></td></td>	<input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> </td></td></td>	<input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> </td></td>	<input]<="" td="" type="button" value="Reset"/> <td><input]<="" td="" type="button" value="Reset"/> </td>	<input]<="" td="" type="button" value="Reset"/>
Count	0000	Count	0000	Count	0000
Rate	10 <input type="button" value="▼"/>	Rate	10 <input type="button" value="▼"/>	Rate	10 <input type="button" value="▼"/>
<input type="radio"/> Advance		<input type="radio"/> Advance	<input type="radio"/> Advance		
<input type="radio"/> Withdraw		<input type="radio"/> Withdraw	<input type="radio"/> Withdraw		
<input]<="" td="" type="button" value="Single-Step"/> <td><input]<="" td="" type="button" value="Single-Step"/> <td><input]<="" td="" type="button" value="Single-Step"/> <td colspan="2"><input]<="" td="" type="button" value="Single-Step"/> </td></td></td>		<input]<="" td="" type="button" value="Single-Step"/> <td><input]<="" td="" type="button" value="Single-Step"/> <td colspan="2"><input]<="" td="" type="button" value="Single-Step"/> </td></td>	<input]<="" td="" type="button" value="Single-Step"/> <td colspan="2"><input]<="" td="" type="button" value="Single-Step"/> </td>	<input]<="" td="" type="button" value="Single-Step"/>	
<input]<="" td="" type="button" value="Continuous"/> <td><input]<="" td="" type="button" value="Continuous"/> <td><input]<="" td="" type="button" value="Continuous"/> <td colspan="2"><input]<="" td="" type="button" value="Continuous"/> </td></td></td>		<input]<="" td="" type="button" value="Continuous"/> <td><input]<="" td="" type="button" value="Continuous"/> <td colspan="2"><input]<="" td="" type="button" value="Continuous"/> </td></td>	<input]<="" td="" type="button" value="Continuous"/> <td colspan="2"><input]<="" td="" type="button" value="Continuous"/> </td>	<input]<="" td="" type="button" value="Continuous"/>	
SELECTED ACTION SET (BB3 Up, BB4 Down)					
<input type="checkbox"/> Move Guide Wire (with Rotation) [only device inserted] <input type="checkbox"/> Move Guide Catheter and Guide Wire (with Rotation) <input type="checkbox"/> Move Guide Catheter (with Rotation) - Hold Guide Wire <input type="checkbox"/> Move Guide Wire - Hold Guide Catheter <input type="checkbox"/> Move Interventional Catheter & (if applicable) Guide Wire (with Rotation) <input type="checkbox"/> Move Interventional Catheter (with Rotation) - Hold Guide Wire <input type="checkbox"/> Move Guide Wire (with Rotation) - Hold Interventional Catheter <input type="checkbox"/> Move Module-Base Wheel Alone <input type="checkbox"/> Rotate Module Base Alone <input type="checkbox"/> Move Drum Base Alone <input type="checkbox"/> Move Drum Wheel Alone					
701		703		705	
<input]<="" td="" type="button" value="Start"/> <td colspan="2"><input]<="" td="" type="button" value="Settings"/> <td colspan="2"><input]<="" td="" type="button" value="Start"/> </td></td>		<input]<="" td="" type="button" value="Settings"/> <td colspan="2"><input]<="" td="" type="button" value="Start"/> </td>		<input]<="" td="" type="button" value="Start"/>	
<input]<="" td="" type="button" value="Parallel Pair"/> <td colspan="2"><input]<="" td="" type="button" value="3701 (BB3)"/> <td colspan="2"><input]<="" td="" type="button" value="Parallel Pair"/> </td></td>		<input]<="" td="" type="button" value="3701 (BB3)"/> <td colspan="2"><input]<="" td="" type="button" value="Parallel Pair"/> </td>		<input]<="" td="" type="button" value="Parallel Pair"/>	
<input type="checkbox"/> Controlled Functions		<input type="checkbox"/> BB2 Allow Rotation (if applicable)		<input type="checkbox"/> Controlled Functions	
<input type="checkbox"/> Mod-Base Wheel...		<input type="checkbox"/> Stepper Velocity		<input type="checkbox"/> Mod-Base Wheel...	
<input type="checkbox"/> Advance/Withdraw Catheter		<input type="checkbox"/> 1		<input type="checkbox"/> Advance/Withdraw Catheter	
<input type="checkbox"/> Rotate Module Base		<input type="checkbox"/> X-Stepper Velocity		<input type="checkbox"/> Rotate Module Base	
<input type="checkbox"/> Rotate Drum		<input type="checkbox"/> Y-Stepper Velocity		<input type="checkbox"/> Rotate Drum	
<input type="checkbox"/> Drum Wheel...		<input type="checkbox"/> Z-Stepper Velocity		<input type="checkbox"/> Drum Wheel...	
<input type="checkbox"/> Advance/Withdraw Wire		<input type="checkbox"/> 1		<input type="checkbox"/> Advance/Withdraw Wire	
Viewpoint control could be used for functions such as Flush Catheter, (Measure Pressure), etc.					
711					
Interventional Catheter on Module-Base Wheel and Drum					
<input type="checkbox"/> Guide Wire on Drum Wheel <input type="checkbox"/> Guide Catheter Clamped on Module Base					
709		713		711	
<input]<="" td="" type="button" value="Y-Bass Speed Multiplier"/> <td colspan="2"><input]<="" td="" type="button" value="Release All Motors (BB8)"/> <td colspan="2"><input]<="" td="" type="button" value="Preferences"/> </td></td>		<input]<="" td="" type="button" value="Release All Motors (BB8)"/> <td colspan="2"><input]<="" td="" type="button" value="Preferences"/> </td>		<input]<="" td="" type="button" value="Preferences"/>	
<input]<="" td="" type="button" value="67"/> <td colspan="2"><input]<="" td="" type="button" value="button 5"/> <td colspan="2"><input]<="" td="" type="button" value="button 6"/> </td></td>		<input]<="" td="" type="button" value="button 5"/> <td colspan="2"><input]<="" td="" type="button" value="button 6"/> </td>		<input]<="" td="" type="button" value="button 6"/>	
<input]<="" td="" type="button" value="button 4"/> <td colspan="2"><input]<="" td="" type="button" value="button 3"/> <td colspan="2"><input]<="" td="" type="button" value="button 2"/> </td></td>		<input]<="" td="" type="button" value="button 3"/> <td colspan="2"><input]<="" td="" type="button" value="button 2"/> </td>		<input]<="" td="" type="button" value="button 2"/>	
<input]<="" td="" type="button" value="button 3"/> <td colspan="2"><input]<="" td="" type="button" value="button 2"/> <td colspan="2"><input]<="" td="" type="button" value="button 1"/> </td></td>		<input]<="" td="" type="button" value="button 2"/> <td colspan="2"><input]<="" td="" type="button" value="button 1"/> </td>		<input]<="" td="" type="button" value="button 1"/>	
<input]<="" td="" type="button" value="button 2"/> <td colspan="2"><input]<="" td="" type="button" value="button 1"/> <td colspan="2"><input]<="" td="" type="button" value="button 0"/> </td></td>		<input]<="" td="" type="button" value="button 1"/> <td colspan="2"><input]<="" td="" type="button" value="button 0"/> </td>		<input]<="" td="" type="button" value="button 0"/>	
713					
711					

FIG. 13